5/20

#5

ENTERED

```
RAW SEQUENCE LISTING              DATE: 05/23/2002
PATENT APPLICATION:  US/10/079,754A    TIME: 18:08:07

Input Set : A:\41702seqlist1068.txt
Output Set: N:\CRF3\05232002\J079754A.raw
```

```
 4 <110> APPLICANT: Glenn, Matthew
 5        Grigor, Murray R.
 6        Molenaar, Adrian J.
 7        Davis, Stephen R.
 9 <120> TITLE OF INVENTION: Compositions Isolated from Bovine
10        Mammary Gland and Methods for Their Use
13 <130> FILE REFERENCE: 11000.1068
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C--> 15 `<140> CURRENT APPLICATION NUMBER: US/10/079,754A`
C--> 15 `<141> CURRENT FILING DATE: 2002-02-19`
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15 <150> PRIOR APPLICATION NUMBER: US 09/699,146
16 <151> PRIOR FILING DATE: 2000-10-27
18 <150> PRIOR APPLICATION NUMBER: US 60,162,701
19 <151> PRIOR FILING DATE: 1999-10-29
21 <150> PRIOR APPLICATION NUMBER: US 09/644,190
22 <151> PRIOR FILING DATE: 2000-08-22
24 <150> PRIOR APPLICATION NUMBER: US 60,150,330
25 <151> PRIOR FILING DATE: 1999-08-23
27 <160> NUMBER OF SEQ ID NOS: 15
29 <170> SOFTWARE: FastSEQ for Windows Version 4.0
31 <210> SEQ ID NO: 1
32 <211> LENGTH: 505
33 <212> TYPE: DNA
34 <213> ORGANISM: Bovine
36 <400> SEQUENCE: 1
37 ttgaagatga catcaggtac cgctgtccag gactccacca aatatgaaga tctttatctt      60
38 tgtcttcatt atggctctca tcctagccat gattagagct gattcatctg aagagaaacg     120
39 tcacaggaaa cggaaaaaac atcatagagg atattttcaa caataccagc catatcaacg     180
40 atatccacta aattatcctc ctgcgtatcc atttccttaa aatgctgctt agtaactaca     240
41 ggacatgatt agagagattt ttcacaatga ttttttcctac tctttctgtt gtgttgaaaa     300
42 ccatctttca aatgaataaa acaaagaaaa aaaaatcagt caagtagttg cacaacacat     360
43 acttggaatc aaatatcaat attttaaaac ataataatga tagtctctga actatgtaat     420
44 tggtttctac tttcttttct ctgtcactta ccatgcatgc ttaataaatt gatctatcaa     480
45 gcataaaaaa aaaaaaaaaa aaaaa                                            505
47 <210> SEQ ID NO: 2
48 <211> LENGTH: 585
49 <212> TYPE: DNA
50 <213> ORGANISM: Bovine
52 <400> SEQUENCE: 2
53 atggattcga ttggaccaga aaagtggtaa aatcttgatc aaagaaatcc ttaacaatat      60
54 actaaagaaa gaagcttgtc caagggaaaa ttaaaaagcc agcaattgaa gatgacatca     120
55 ggtaccgctg tccaggactc caccaaatat gaagatcttt atctttatct tcattatggc     180
56 tctcatccta gccatgatta gagctgattc atctgaagag aaacgtcaca ggaaacggaa     240
57 aaaacatcat agaggatatt ttcaacaata ccagccatat caacgatatc cactaaatta    300
```

RAW SEQUENCE LISTING   DATE: 05/23/2002
PATENT APPLICATION: US/10/079,754A   TIME: 18:08:07

Input Set : A:\41702seqlist1068.txt
Output Set: N:\CRF3\05232002\J079754A.raw

```
58  tcctcctgcg tatccatttc cttaaaatgc tgcttagtaa ctacaggaca tgattagaga    360
59  gatttttcac aatgattttt cctactcttt ctgttgtgtt gaaaaccatc tttcaaatga    420
60  ataaaacaaa gaaaaaaaaa tcagtcaagt agttgcacaa cacatacttg gaatcaaata    480
61  tcaatatttt aaaacataat aatgacagtc tctgaactat gtaattggtt tctactttct    540
62  tttctctgtc acttaccatg catgcttaat aaattgatct atcaa                   585
64  <210> SEQ ID NO: 3
65  <211> LENGTH: 869
66  <212> TYPE: DNA
67  <213> ORGANISM: Bovine
69  <400> SEQUENCE: 3
70  gtccaaggga aaattaaaaa gccagcaatt gaagatgaca tcaggtaccg ctgtccagga     60
71  ctccaccaaa tatgaagatc tttatcttta tcttcattat ggctctcatc ctagccatga    120
72  ttagagctga ttcatctgaa gagaaacgtc acaggaaacg gaaaaaacat catgtatgta    180
73  ttcctctgat aatgtggtat agtataagaa tatttttttac tcagaatatt tattctataa    240
74  gagaatacat atttatcttt gaaatatatc tatacaatga ttagcttatg tgtccattga    300
75  attatctttt tatgatacac taggtaaaga ccccaaagac ttgtgtgctg ttactgttta    360
76  catagaaacc tataatgcca ccctgataaa gccagttatt ttctaagaaa agttatttct    420
77  gtttggtaaa taattgcctt cctctgaaga atactgaaat tctaattata ctaagtacaa    480
78  tatacaccta aaggaccata gaggctgcta aagaacatat attatgtggt cagtttccat    540
79  tttctgattt cttttgggag gtaatgtatg ttaattgacc aagttaaaga agagagacaa    600
80  tttcatttat ttaacatttt tcttaatgat atgtatcact ggtgtctcat attattttga    660
81  catgtctaat caggttgata ggtctccaga attcttacta atacagtaag tactgctact    720
82  gctactgcta agttgcttca gtcatgtcca actctgtgcg accccataga cagcagcgca    780
83  ccaggctccc ctgcccctgg gattctccag gcaaggatac tggagtgggt tgccatttca    840
84  gataaattca aatagcttca aaaaaaaaa                                      869
86  <210> SEQ ID NO: 4
87  <211> LENGTH: 604
88  <212> TYPE: DNA
89  <213> ORGANISM: Bovine
91  <400> SEQUENCE: 4
92  gaagtatttt cagttctata ataagatctc ataactgatg taattacaaa aacaaatgaa     60
93  ggatttcaag gtatttaaac acagcagttt tctagcaaag aacatctcct gaagcatcag    120
94  aatttcatct ttcatgactg gactccacca aatatgaaga tctttatctt tgtcttcatt    180
95  atggctctca tcctagccat gattagagct gattcatctg aagagaaacg tcacaggaaa    240
96  cggaaaaaac atcatagagg atattttcaa caataccagc catatcaacg atatccacta    300
97  aattatcctc ctgcgtatcc atttccttaa aatgctgctt agtaactaca ggacatgatt    360
98  agagagattt ttcacaatga ttttttcctac tctttctgtt gtgttgaaaa ccatctttca    420
99  aatgaataaa acaaagaaaa aaaaatcagt caagtagttg cacaacacat acttggaatc    480
100 aaatatcaat attttaaaac ataataatga tagtctctga actatgtaat tggtttctac    540
101 tttcttttct ctgtcactta ccatgcatgc ttaataaatt gatctatcaa gcataaaaaa    600
102 aaaa                                                                 604
104 <210> SEQ ID NO: 5
105 <211> LENGTH: 96
106 <212> TYPE: DNA
107 <213> ORGANISM: Bovine
109 <400> SEQUENCE: 5
110 tttcaacaat accagccata tgaacgatat ccactaaatt atcctcctgc gtatccatta     60
111 tcttaaaatg ctgcttacca actacaggac atgata                               96
113 <210> SEQ ID NO: 6
```

RAW SEQUENCE LISTING   DATE: 05/23/2002
PATENT APPLICATION: US/10/079,754A   TIME: 18:08:07

Input Set : A:\41702seqlist1068.txt
Output Set: N:\CRF3\05232002\J079754A.raw

```
114 <211> LENGTH: 525
115 <212> TYPE: DNA
116 <213> ORGANISM: Bovine
118 <400> SEQUENCE: 6
119 tgaagatgac atcaggtacc gctgtccagg actccaccaa atatgaagat ctttatcttt      60
120 gtcttcatta tggctctcat cctagccatg attagagctg attcatctga agagaaacgt     120
121 cacaggaaac ggaaaaaaca tcatgttgat aggtctccag aattcttact aatacaagag     180
122 gatattttca acaataccag ccatatcaac gatatccact aaattatcct cctgcgtatc     240
123 catttcctta aaatgctgct tagtaactac aggacatgat tagagagatt tttcacaatg     300
124 atttttccta ctctttctgt tgtgttgaaa accatctttc aaatgaataa aacaaagaaa     360
125 aaaaaatcag tcaagtagtt gcacaacaca tacttggaat caaatatcaa tattttaaaa     420
126 cataataatg atagtctctg aactatgtaa ttggtttcta ctttcttttc tctgtcactt     480
127 accatgcatg cttaataaat tgatctatca agcataaaaa aaaaa                      525
129 <210> SEQ ID NO: 7
130 <211> LENGTH: 58
131 <212> TYPE: PRT
132 <213> ORGANISM: Bovine
134 <400> SEQUENCE: 7
135 Met Lys Ile Phe Ile Phe Val Phe Ile Met Ala Leu Ile Leu Ala Met
136 1               5                   10                  15
137 Ile Arg Ala Asp Ser Ser Glu Glu Lys Arg His Arg Lys Arg Lys Lys
138             20                  25                  30
139 His His Arg Gly Tyr Phe Gln Gln Tyr Gln Pro Tyr Gln Arg Tyr Pro
140             35                  40                  45
141 Leu Asn Tyr Pro Pro Ala Tyr Pro Phe Pro
142     50                  55
144 <210> SEQ ID NO: 8
145 <211> LENGTH: 58
146 <212> TYPE: PRT
147 <213> ORGANISM: Bovine
149 <400> SEQUENCE: 8
150 Met Lys Ile Phe Ile Phe Ile Phe Ile Met Ala Leu Ile Leu Ala Met
151 1               5                   10                  15
152 Ile Arg Ala Asp Ser Ser Glu Glu Lys Arg His Arg Lys Arg Lys Lys
153             20                  25                  30
154 His His Arg Gly Tyr Phe Gln Gln Tyr Gln Pro Tyr Gln Arg Tyr Pro
155             35                  40                  45
156 Leu Asn Tyr Pro Pro Ala Tyr Pro Phe Pro
157     50                  55
159 <210> SEQ ID NO: 9
160 <211> LENGTH: 70
161 <212> TYPE: PRT
162 <213> ORGANISM: Bovine
164 <400> SEQUENCE: 9
165 Met Lys Ile Phe Ile Phe Ile Phe Ile Met Ala Leu Ile Leu Ala Met
166 1               5                   10                  15
167 Ile Arg Ala Asp Ser Ser Glu Glu Lys Arg His Arg Lys Arg Lys Lys
168             20                  25                  30
169 His His Val Cys Ile Pro Leu Ile Met Trp Tyr Ser Ile Arg Ile Phe
```

RAW SEQUENCE LISTING   DATE: 05/23/2002
PATENT APPLICATION: US/10/079,754A   TIME: 18:08:07

Input Set : A:\41702seqlist1068.txt
Output Set: N:\CRF3\05232002\J079754A.raw

```
170          35                  40                  45
171 Phe Thr Gln Asn Ile Tyr Ser Ile Arg Glu Tyr Ile Phe Ile Phe Glu
172     50                  55                  60
173 Ile Tyr Leu Tyr Asn Asp
174 65                  70
176 <210> SEQ ID NO: 10
177 <211> LENGTH: 58
178 <212> TYPE: PRT
179 <213> ORGANISM: Bovine
181 <400> SEQUENCE: 10
182 Met Lys Ile Phe Ile Phe Val Phe Ile Met Ala Leu Ile Leu Ala Met
183 1               5                  10                  15
184 Ile Arg Ala Asp Ser Ser Glu Glu Lys Arg His Arg Lys Arg Lys Lys
185         20                  25                  30
186 His His Arg Gly Tyr Phe Gln Gln Tyr Gln Pro Tyr Gln Arg Tyr Pro
187         35                  40                  45
188 Leu Asn Tyr Pro Pro Ala Tyr Pro Phe Pro
189     50                  55
191 <210> SEQ ID NO: 11
192 <211> LENGTH: 21
193 <212> TYPE: PRT
194 <213> ORGANISM: Bovine
196 <400> SEQUENCE: 11
197 Phe Gln Gln Tyr Gln Pro Tyr Glu Arg Tyr Pro Leu Asn Tyr Pro Pro
198 1               5                  10                  15
199 Ala Tyr Pro Leu Ser
200             20
202 <210> SEQ ID NO: 12
203 <211> LENGTH: 59
204 <212> TYPE: PRT
205 <213> ORGANISM: Bovine
207 <400> SEQUENCE: 12
208 Met Lys Ile Phe Ile Phe Val Phe Ile Met Ala Leu Ile Leu Ala Met
209 1               5                  10                  15
210 Ile Arg Ala Asp Ser Ser Glu Glu Lys Arg His Arg Lys Arg Lys Lys
211         20                  25                  30
212 His His Val Asp Arg Ser Pro Glu Phe Leu Leu Ile Gln Glu Asp Ile
213         35                  40                  45
214 Phe Asn Asn Thr Ser His Ile Asn Asp Ile His
215     50                  55
217 <210> SEQ ID NO: 13
218 <211> LENGTH: 8
219 <212> TYPE: PRT
220 <213> ORGANISM: Artificial Sequence
222 <220> FEATURE:
223 <223> OTHER INFORMATION: Made in a lab from synthetic material
```
W--> 225 **<221> NAME/KEY: VARIANT**
```
226 <222> LOCATION: (1)...(8)
227 <223> OTHER INFORMATION: Xaa = Any Amino Acid
```

```
W--> 229 <400> 13
W--> 230 Xaa Xaa His His Xaa Xaa Tyr Xaa
     231 1                5
     233 <210> SEQ ID NO: 14
     234 <211> LENGTH: 8
     235 <212> TYPE: PRT
     236 <213> ORGANISM: Artificial Sequence
     238 <220> FEATURE:
     239 <223> OTHER INFORMATION: Made in a lab from synthetic material
     241 <400> SEQUENCE: 14
     242 Lys Lys His His Arg Lys Tyr Phe
     243 1                5
     245 <210> SEQ ID NO: 15
     246 <211> LENGTH: 267
     247 <212> TYPE: DNA
     248 <213> ORGANISM: Bovine
     250 <400> SEQUENCE: 15
     251 ttgaagatga catcaggtac cgctgtccag gactccacca aatatgaaga tctttatctt       60
     252 tgtcttcatt atggctctca tcctagccat gattagagct gattcatctg aagagaaacg      120
     253 tcacaggaaa cggaaaaaac atcatagagg atattttcaa caataccagc catatcaacg      180
     254 atatccacta aattatcctc ctgcgtatcc atttccttaa aatgctgctt agtaactaca      240
     255 ggacatgatt agagagattt ttcacaa                                           267
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 05/23/2002
PATENT APPLICATION: US/10/079,754A   TIME: 18:08:08

Input Set : A:\41702seqlist1068.txt
Output Set: N:\CRF3\05232002\J079754A.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:13; Xaa Pos. 1,2,5,6,8

VERIFICATION SUMMARY   DATE: 05/23/2002
PATENT APPLICATION: US/10/079,754A   TIME: 18:08:08

Input Set : **A:\41702seqlist1068.txt**
Output Set: **N:\CRF3\05232002\J079754A.raw**

L:15 M:270 C: Current Application Number differs, Replaced Current Application No
L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:225 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:229 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:13
L:230 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0